



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION**

December 16, 2015

Ms. Annette M. Bloomberg  
Regulatory Manager  
Bayer CropScience  
P.O. Box 12014  
2 T.W. Alexander Drive  
Research Triangle Park, NC 27709

Subject: Notification per PRN 98-10 – Label changes associated with transfer or registration  
Product Name: Imazapyr II 75 XP Herbicide  
EPA Registration Number: 432-1581  
Application Date: 12/04/2015  
Decision Number: 511970

Dear Ms. Bloomberg:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

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If you have any questions, you may contact Lisa Pahel at (703) 347-0459 or via email at [pahel.lisa@epa.gov](mailto:pahel.lisa@epa.gov).

Sincerely,

A handwritten signature in cursive script that reads "Heather Garvie".

Heather Garvie, Product Manager 24  
Fungicide and Herbicide  
Registration Division (7505P)  
Office of Pesticide Programs

# DuPont™ IMAZAPYR II 75XP HERBICIDE

Dispersible Granules

Active Ingredient

By Weight

Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)

75.0%

Other Ingredients

25.0%

Total

100%

EPA Reg No. ~~352-855~~ 432-1581

EPA Est. No.

Nonrefillable Container

Net:

OR

Refillable Container

Net:

## NOTIFICATION

432-1581

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

12/16/2015

## KEEP OUT OF REACH OF CHILDREN

# CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

### FIRST AID

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by a poison control center or doctor. DO NOT give anything to an unconscious person. Call a poison control center or doctor for further treatment advice.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact ~~1-800-441-3637~~ **1-800-334-7577** for emergency medical treatment information.

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION!

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing.

Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are polyethylene and polyvinylchloride. If you want more options, follow the instructions for category A on an EPA chemical-resistant category selection chart. Mixers, loaders, applicators and other handlers must wear:

Long-sleeved shirt and long pants

Shoes plus socks

Chemical resistant gloves for all mixers and loaders, plus applicators using handheld equipment

**User Safety Requirements:** Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

**Engineering Control Statement:** Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4- 6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### USER SAFETY RECOMMENDATIONS

**USERS SHOULD:** Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing.

As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This product is toxic to plants. Drift and run-off may be hazardous to plants in water adjacent to treated areas. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. See Directions for Use for additional precautions and requirements.

### PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of **DuPont™** IMAZAPYR II75XP **HERBICIDE** should be mixed, stored, and applied only in stainless steel, fiberglass, plastic, and plastic-lined steel containers.

Do not mix, store, or apply IMAZAPYR II75XP **HERBICIDE** or spray solutions of IMAZAPYR II75XP **HERBICIDE** in unlined steel (except stainless steel) containers or spray tanks.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. IMAZAPYR II 75XP **HERBICIDE** must be used only in accordance with instructions on the label.

### BIOLOGICAL ACTIVITY

IMAZAPYR II 75XP **HERBICIDE** is quickly taken up by the leaves, stems, and roots of plants with accumulations occurring in the growing points of the plant. Growth of treated plants stops soon after treatment. Within one to three weeks after application, the leaves begin to turn yellow (chlorosis) and then gradually become necrotic. Death of the plants may require several more weeks. IMAZAPYR II 75XP **HERBICIDE** is rain-fast at one hour after application.

### TANK MIXTURES

IMAZAPYR II 75XP **HERBICIDE** may be tank mixed with other herbicides and /or adjuvants registered for the uses specified in the product label. Refer to the label of the tank mix partner (s) for any additional instructions or use restrictions. Tank mixing with 2,4 -D or products which contain 2,4-D has resulted in reduced performance of IMAZAPYR II 75XP **HERBICIDE**.

An anti-foaming agent, spray pattern indicator or drift reducing agent may be applied at the product labeled rate if needed or desired.

### ADJUVANTS

For best performance, include a spray adjuvant when making postemergence applications of IMAZAPYR II 75XP **HERBICIDE**.

**Nonionic Surfactants:** Use a non-ionic surfactant at a minimum rate of 0.25% v/v (1 quart surfactant per 100 gallons of spray solution). Surfactant products must contain at least 70% non-ionic surfactant with a hydrophilic/lipophilic balance (HLB) of 12 to 17.

**Methylated Seed Oils or Vegetable Oils:** Under temperature or moisture stress conditions, a methylated seed oil (MSO) or vegetable oil based adjuvant may provide increased leaf absorption of IMAZAPYR II 75XP **HERBICIDE**. For spray volumes of less than 30 gallons per acre use a rate of 1.5 to 2 pints per acre. For higher volume applications, spray volumes greater than 30 gallons per acre, include the MSO or vegetable oil adjuvant at 1% v/v (1 gallon per 100 gallons of spray solution).

**Silicone Based Surfactants:** Silicone based adjuvants reduce the surface tension of the spray droplet allowing better coverage of the leaf surface compared to some nonionic surfactants. In some cases, the silicone adjuvant may dry too quickly limiting uptake. Refer to the manufacturer's instructions for use rates.

**Invert Emulsions:** **DuPont™** IMAZAPYR II 75XP **HERBICIDE** may be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

### Ammonium Nitrogen Fertilizer

In addition to a non-ionic surfactant or seed oil concentrate, ammonium nitrogen fertilizer may be added to the IMAZAPYR II 75XP **HERBICIDE** spray solution. Use 32 to 48 ounces per acre of a high-quality urea ammonium nitrate (UAN), such as 28% N or 32% N, or a spray-grade ammonium sulfate (AMS).

### INVASIVE SPECIES MANAGEMENT

This product may be considered for use on public, private, and tribal lands to treat certain weed species infestations that have been determined to be invasive, consistent with the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) National Early Detection and Rapid Response (EDRR) System for invasive plants. Effective EDRR systems address invasions by eradicating the invader where possible and controlling them when the invasive species is too established to be feasibly eradicated. Once an EDRR assessment has been completed and action is recommended, a Rapid Response needs to be taken to quickly contain, deny reproduction, and if possible eliminate the invader. Consult your appropriate state extension service, forest service, or regional multidisciplinary invasive species management coordination team to determine the appropriate Rapid Response provisions and allowed treatments in your area.

## RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action. To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

## INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

## PREPARING FOR USE • SITE SPECIFIC CONSIDERATIONS

Understanding the risks associated with the application of IMAZAPYR II 75XP **HERBICIDE** is essential to aid in preventing off-site injury to desirable vegetation and agricultural crops. The risk of off-site movement both during and after application may be affected by a number of site specific factors such as the nature, texture, and stability of the soil; the intensity and direction of prevailing winds; vegetative cover; site slope; rainfall; drainage patterns; and other local physical and environmental conditions. A careful evaluation of the potential for off-site movement from the intended application site, including movement of treated soil by wind or water erosion, must be made prior to using IMAZAPYR II 75XP **HERBICIDE**. This evaluation is particularly critical where desirable vegetation or crops are grown on neighboring land for which the use of IMAZAPYR II 75XP **HERBICIDE** is not labeled. If prevailing local conditions may be expected to result in off-site movement and cause damage to neighboring desirable vegetation or agricultural crops, do not apply IMAZAPYR II 75XP **HERBICIDE**.

Before applying IMAZAPYR II 75XP **HERBICIDE** the user must read and understand all label directions, precautions, and restrictions completely, including these requirements for a site specific evaluation. If you do not understand any of the instructions or precautions on the label, or are unable to make a site specific evaluation yourself, consult your local agricultural dealer, cooperative extension service, land managers, professional consultants, or other qualified authorities familiar with the area to be treated. If you still have questions regarding the need for site specific considerations, please call **1-800-331-2867** ~~1-888-6-DUPONT~~.

## AGRICULTURAL USES

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Protective eyewear
- Shoes plus socks
- Chemical resistant gloves made of any waterproof material

## PRODUCT INFORMATION

**DuPont™** IMAZAPYR II 75XP **HERBICIDE** is a water soluble granule to be mixed with water and generally applied as a postemergent spray for the control of many broadleaf weeds, annual and perennial grasses, brush, vines, and brambles in conifer plantations (site preparation and release) and wildlife management areas. For perennial species on the label, a postemergence application should be used. For best performance, an adjuvant should be added to the spray solution (see **Adjuvants** section for specific recommendations).

IMAZAPYR II 75XP **HERBICIDE** may be applied by ground spray equipment (boom sprayers, backpack sprayers, tree injection, etc.) and by aerial spray equipment. Fixed wing aircraft and helicopters can be used to apply IMAZAPYR II 75XP **HERBICIDE**, however, do not make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil(TM) boom, Thru- Valve(TM) boom, or raindrop nozzles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the labeled rate.

In certain natural regeneration conifer sites, it may be used for selective herbaceous and woody weed control. IMAZAPYR II 75XP **HERBICIDE** can also be used for cut stem and stump treatments, for the control of woody vegetation along forest roads, and for establishing and maintaining wildlife openings, except in the state of California. It may also be used to control weeds along the banks of drainage (non-irrigation) ditches. Only the edge of drainage ditches can be treated for drainage ditches that contain water.

IMAZAPYR II 75XP **HERBICIDE** may be applied on conifer plantations and wildlife management areas that contain areas of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by management activities in these sites, except in the states of California and New York. It is permissible to treat drainage ditches, intermittent drainage sites, intermittently flooded low lying sites, seasonally dry flood plains, and transitional areas between upland and low land sites when no water is present, except in the states of California and New York. It is also permissible to treat marshes, swamps, and bogs after water has receded, as well as seasonally dry flood deltas, except in the states of California and New York.

Applying or draining or flushing equipment on or near sensitive desirable plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots may cause severe injury or death to these plants.

Good spray coverage of the target plant is desired. Excessive wetting which causes the spray to run off target plants should be avoided. IMAZAPYR II 75XP **HERBICIDE** may be applied by either ground or aerial spray equipment.

Do not treat irrigation ditches or water used for crop irrigation or for domestic uses.

Note: Injury or loss of desirable trees or other plants may result if IMAZAPYR II 75XP **HERBICIDE** is applied on or near desirable trees or other plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots.

## CONIFER PLANTATIONS

### APPLICATION INFORMATION

#### SITE PREPARATION

**DuPont™** IMAZAPYR II 75XP **HERBICIDE** controls the labeled weed species prior to planting the conifer species below. Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species, and dense hardwood canopies.

#### Conifer Species

	Rate (ounces per acre)
Loblolly pine ( <i>pinus taeda</i> )	16- 26.7
Loblolly X Pitch Hybrid	16- 26.7
Longleaf pine ( <i>Pinus palustris</i> )	16- 26.7
Shortleaf pine ( <i>Pinus echinata</i> )	16- 26.7
Virginia pine ( <i>Pinus virginiana</i> )	16- 26.7
Slash pine ( <i>Pinus elliotii</i> )	13.3- 21.3
Douglas fir ( <i>Pseudotsuga menziesii</i> )	8- 16
Coastal redwood ( <i>Sequoia sempervirens</i> )	8- 16
Western hemlock ( <i>Tsuga heterophylla</i> )	8- 16
California red fir ( <i>Abies magnifica</i> )	8- 13.3
California white fir ( <i>Abies concolor</i> )	8- 13.3
Jack pine ( <i>Pinus banksiana</i> )	8- 10.7
Lodgepole pine ( <i>Pinus contorta</i> )	8- 10.7
Pitch pine ( <i>Pinus rigida</i> )	8- 10.7
Ponderosa pine ( <i>Pinus ponderosa</i> )	8- 10.7
Sugar Pine ( <i>Pinus lambertiana</i> )	8- 10.7
White pine ( <i>Pinus strobus</i> )	8- 10.7
Black spruce ( <i>Picea mariana</i> )	8- 10.7
Red spruce ( <i>Picea rubens</i> )	8- 10.7
White spruce ( <i>Picea glauca</i> )	8- 10.7



IMAZAPYR II 75XP **HERBICIDE** applied postemergence at the specified broadcast rates in the above table will provide control of many brush plants in conifer plantations. Allow 4 to 6 weeks after application for control of most herbaceous and grass weeds. The dead or dying plants may aid a site preparation burn, if needed. The residual activity of IMAZAPYR II 75XP **HERBICIDE** will aid in the control of herbaceous weeds.

For ground boom or backpack spray equipment, apply IMAZAPYR II 75XP **HERBICIDE** in a total spray volume of 5 to 100 gallons per acre. For helicopter applications, use a total spray volume of 5 to 30 gallons per acre. Include a spray adjuvant with all postemergence applications. Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species, and dense hardwood canopies.

In sites where tolerant wildling conifers, brush, or weed species exist, tank mix IMAZAPYR II 75XP **HERBICIDE** with other registered herbicides. For quick brown out of foliage to aid burning, add 1 to 4 pints per acre of glyphosate (4 pounds active per gallon) or 1 to 3 pints per acre of triclopyr (4 pound active per gallon) to 0.7 to 2.7 pounds per acre of IMAZAPYR II 75XP **HERBICIDE**.

In site preparation areas with seedling pines, apply a tank mix of IMAZAPYR II 75XP **HERBICIDE** at 0.7 to 1.3 pounds per acre plus glyphosate (4 pound active per gallon) at 3 to 4 quarts per acre. When using IMAZAPYR II 75XP **HERBICIDE** at rates less than 1.0 pound per acre, expect only suppression of trees and hardwood brush species.

**NOTE:** To reduce the potential for injury, do not plant white or black spruce seedlings for 3 months following a banded or broadcast application of IMAZAPYR II 75XP **HERBICIDE**.

### HERBACEOUS WEED CONTROL

Use IMAZAPYR II 75XP **HERBICIDE** for selective weeding in the following conifer species. Use the higher rate for hard to control weed or brush species or heavy weed or brush infestations.

Conifer Species	Rate (ounces per acre)
Loblolly pine	4-6.7
Loblolly X Pitch Hybrid	4-6.7
Virginia pine	4-6.7
Longleaf pine*	2.7-4
Slash Pine*	2.7-4
Douglas fir* <del>tir</del> fir*	2.7-4

\*The use of an adjuvant is not recommended.

For herbaceous weed control in established conifer seedlings, apply IMAZAPYR II 75XP **HERBICIDE** at the above rates, as a directed spray, or as banded or broadcast spray over-the-top of the conifer seedlings. Apply by helicopter, ground boom or backpack sprayers for broadcast applications. For best results, make applications to newly emerged weeds.

When herbaceous weeds are taller than the conifer seedlings, an adjuvant (non-ionic surfactant) may be included at a maximum of 0.25% v/v for improved weed control. The addition of an adjuvant is not recommended for over-the-top applications in Longleaf pine, Slash pine, or Douglas fir sites. If applications are made when conifers are actively growing, minor conifer stunting (growth inhibition) may occur.

To help prevent the possibility of conifer injury, do not apply **DuPont™** IMAZAPYR II 75XP **HERBICIDE** when conifers are under stress from drought, diseases, animal or winter injury, planting shock, or other stresses that may reduce conifer vigor. For directed applications around and under conifer seedlings, IMAZAPYR II 75XP **HERBICIDE** may be applied with hand-held or backpack sprayers for herbaceous weed control. Use a spray solution of IMAZAPYR II 75XP **HERBICIDE** at 0.3 to 0.8 ounces plus a nonionic surfactant at 0.2 ounce per gallon of water. To help prevent conifer injury, direct the spray to the weeds to reduce the amount of spray solution contacting the conifer foliage. Do not exceed the maximum labeled rate per acre for the various conifer species in the table.



IMAZAPYR II 75XP **HERBICIDE** may be tank mixed with **DuPont™ OUST® XP HERBICIDE** to broaden the spectrum of weeds controlled. For loblolly pine, apply 2.7 to 4 ounces of IMAZAPYR II 75XP plus 1 to 2 ounces OUST® XP per acre. The application of IMAZAPYR II 75XP **HERBICIDE** plus OUST® XP on other conifer species may cause growth suppression.

## CONIFER RELEASE

A broadcast or directed application of IMAZAPYR II 75XP **HERBICIDE** may be used to suppress labeled herbaceous, tree, or brush species. In all ages of conifer stands, a low volume, directed spray application may be made to the targeted weed species while avoiding contact with the conifer foliage. Make sure to not apply more than the rates listed below as conifer injury may occur. Where infestations of hardwood brush species are competing with the conifers, make a broadcast application of IMAZAPYR II 75XP **HERBICIDE** at the rate per conifer species listed below. Use the higher herbicide rates for heavy weed/brush infestations, hard to control species, and dense hardwood canopies.

Conifer Species	Rate (ounces per acre)
Loblolly pine <sup>3</sup>	8 - 13.3
Loblolly X Pitch Hybrid <sup>3</sup>	8 - 13.3
Virginia pine <sup>3</sup>	8 - 13.3
Longleaf pine	8 - 13.3
Pitch pine	8 - 13.3
Shortleaf pine	8 - 13.3
Slash pine	8 - 13.3
White pine <sup>1</sup>	5.3 - 10.7
California red fir	5.3 - 8
California white fir	5.3 - 8
Lodgepole pine <sup>2</sup>	5.3 - 8
Douglas fir <sup>2</sup>	5.3 - 8
Jack pine <sup>2</sup>	5.3 - 8
Black spruce <sup>2</sup>	5.3 - 8
Red spruce <sup>2</sup>	5.3 - 8
White spruce <sup>2</sup>	5.3 - 8

- 1 For release applications, White pine stands must be a minimum of 3 years old. To reduce injury potential, make applications after July 15th.
- 2 Applications should be made after formation of final conifer resting buds in the fall or height stunting (growth inhibition) may occur.
- 3 Mid rotation release: For broadcast applications underneath the pine canopy in established stands of Loblolly pine, Loblolly X Pitch Hybrid and Virginia pine use 10.7 to 16 ounces per acre. For mid rotation release of other conifer species use the rates listed above.

**Note:** In Longleaf pine and Slash pine stands, to control woody brush, make broadcast over-the-top release applications after August 15th. Only make applications to Longleaf and Slash pines that are 2 to 5 years old. Do not include an adjuvant, and use the lower release rates on sandy soils.

When release applications are made during periods of active conifer growth, minor stunting (slowing of growth) may occur. In conifers, except loblolly pine, only make broadcast applications of IMAZAPYR II 75XP **HERBICIDE** after the second season of growth. To reduce the potential for minor stunting, make broadcast release applications late in the growing season.

Do not apply IMAZAPYR II 75XP **HERBICIDE** when conifers are under stress from diseases, drought, animal or winter injury, or other environmental or mechanical stresses as injury may occur. During the first growing season after planting of loblolly pines or in one year old naturally regenerated loblolly pine sites, IMAZAPYR II 75XP **HERBICIDE** may be used for release treatments. For release of loblolly pines that are one year old apply IMAZAPYR II 75XP **HERBICIDE** at 8 to 13.3 ounces per acre. These applications should only be made after July 15th. Use rates below 1 pint per acre will provide only suppression of hardwood brush and some re-sprouting should be expected.

A non-ionic surfactant at 0.25% v/v may be included with this treatment.

For hard to control species or heavy infestations, use the higher labeled rates of IMAZAPYR II 75XP **HERBICIDE**.

## SPOT TREATMENT- RELEASE

In all ages of conifers, a directed postemergence or cut stem application of IMAZAPYR II 75XP **HERBICIDE** may be applied to control unwanted hardwoods or other brush. In Ponderosa pine stands, cut stem applications, at 8 ounces or less per acre, may be used as spot treatments for hardwood control. Care should be taken to not make direct applications to desired plants as injury may occur. Injury may also occur to desired hardwoods or conifers where their roots extend into the treated area or if they share the same root system or their roots have become grafted to those of the treated trees.

## WILDLIFE HABITAT MANAGEMENT

DuPont™ IMAZAPYR II 75XP HERBICIDE may be used to control exotic and other undesirable vegetation for purposes of wildlife habitat management and enhancement within forests as well as terrestrial non-crop sites. Applications can be made to control undesirable vegetation (see WEEDS CONTROLLED section) prior to planting desirable species and to release desirable plant species (see TOLERANT PLANT SPECIES section). Spot, directed foliar and cut stump and stem treatments can be made to selectively control unwanted plants for wildlife habitat management and enhancement.

## MIXING AND APPLICATION INFORMATION

IMAZAPYR II 75XP HERBICIDE should be applied at the following use rates depending upon the vegetation to be controlled and the type of application being made. Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

Vegetation Type	Application Type	Use Rate
Hardwood trees and brush	Directed foliar or spot spray	2.2 to 4.4 ounces per 3 gallons of water
Stump or cut stem		4.4 ounces per gallon of water
Herbaceous weeds	Broadcast	2.2 to 6.6 ounces per acre

See specific use directions in appropriate section.

**Ground Operated Spray Equipment:** Thoroughly mix and apply the specified amount of IMAZAPYR II 75XP HERBICIDE in a minimum of 5 gallons of water per acre. To mix, fill the spray tank with one-half to three-quarters of the desired volume with clean water. Add the required amount of IMAZAPYR II 75XP HERBICIDE to the spray tank while agitating. Add additional water to achieve the desired spray volume and agitate again. A suitable adjuvant (see Adjuvant section) may be added to the spray solution to enhance control of undesirable vegetation. A drift control agent and a foam reducing agent may be added at the label rates, if needed. If desired, a spray pattern indicator may be added at the label rate.

For best results, uniformly cover the foliage of the vegetation to be controlled with the spray solution.

**Side Trimming:** Do not side trim with IMAZAPYR II 75XP HERBICIDE unless severe injury or death of the treated tree can be tolerated. IMAZAPYR II 75XP HERBICIDE is readily translocated and can result in death of the entire tree.

## DIRECTED FOLIAR OR SPOT SPRAY APPLICATIONS

When making directed or spot spray applications with ground spray equipment, or low-volume hand-operated spray equipment, thoroughly mix a solution of IMAZAPYR II 75XP HERBICIDE and include a nonionic surfactant at a minimum of 0.25% by volume.

To mix the spray solution, add the volume of IMAZAPYR II 75XP HERBICIDE and nonionic surfactant indicated in the table below to the desired amount of water. Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species, and dense hardwood canopies.

SPRAY SOLUTION VOLUME	IMAZAPYR II 75 XP HERBICIDE	SURFACTANT (fluid ounce)
3 gallons	2.2 to 4.4 ounces	1.0
5 gallons	4.4 to 9 ounces	1.6
10 gallons	9 to 18 ounces	3.2
20 gallons	18 to 35 ounces	6.4

**IMPORTANT:** Do not over apply causing run-off from the treated foliage. Avoid direct application to desired plant species as injury may occur. Do not apply on or near desirable non-conifer trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not exceed 26.4 ounces of IMAZAPYR II 75XP HERBICIDE per acre.

**Application Tips:** For low volume, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant.

**Proper Spray Pattern:** Moisten but do not drench target vegetation, causing spray solution to run off.

**Low Volume with Backpacks:** For brush up to 4 feet tall, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

**For brush 4 to 8 feet tall:** Lace the sides of the brush by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown whenever possible.

**For brush over 8 feet tall:** Lace the sides of the brush by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

**Low Volume with Hydraulic Handgun Application Equipment:** Use same technique as described above for individual stem treatments.

## **BROADCAST APPLICATIONS**

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the under story may result in severe injury or death of plants in the under story. Do not exceed 26.4 ounces of **DuPont™** IMAZAPYR II 75XP **HERBICIDE** per acre.

## **STUMP AND CUT STEM TREATMENTS**

IMAZAPYR II 75XP **HERBICIDE** may be used to control undesirable woody vegetation by applying a solution of the herbicide in water to the cambium area of freshly-cut stump surfaces or to cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. Tree injection and cut stem treatments are most effective in late summer and early fall.

**Mixing:** IMAZAPYR II 75XP **HERBICIDE** may be mixed and applied as a dilute solution to the surface of the stump or to cuts on the stem of the target woody vegetation. To prepare a dilute solution, thoroughly mix 4.4 ounces of IMAZAPYR II 75XP **HERBICIDE** with one gallon of water.

**For cut stump treatments:** Spray or brush the solution onto the cambium area of the freshly cut stump surface. Insure that the solution thoroughly wets the entire cambium area (the wood next to the bark of the stump).

**For tree injection treatments:** Using standard injection equipment, apply 1 milliliter of solution at each injection site around the tree with no more than one inch intervals between cut edges. Insure that the injector completely penetrates the bark at each injection site.

**For frill or girdle treatments:** Using a hatchet, machete, or similar device, make cuts through the bark at intervals around the tree with no more than two-inch intervals between cut edges. Spray or brush the solution into each cut until thoroughly wet.

## **HERBACEOUS WEED CONTROL**

IMAZAPYR II 75XP **HERBICIDE** may be applied as a broadcast treatment using ground sprayers or as a directed treatment using backpack or hand-held sprayers for the control of herbaceous weeds. For broadcast treatments apply IMAZAPYR II 75XP at rates of 2.2 to 6.6 ounces per acre and include a minimum of 0.25% by volume nonionic surfactant.

## **TOLERANT PLANT SPECIES**

The following plant species are tolerant to IMAZAPYR II 75XP **HERBICIDE**. Many of these species are preferred food, browse, and cover plants for wildlife. These species may be released from herbaceous weed and brush competition with an application of IMAZAPYR II 75XP **HERBICIDE**. IMAZAPYR II 75XP **HERBICIDE** must be used only in accordance with the instructions on this label.

Beggarweed  
 Beggarweed  
 Florida beggarweed  
 Black locust  
 Blackberry  
 Butterfly pea  
 Butterfly pea  
 Dewberry  
 Dollar weed  
 Erect milk pea  
 Goats rue  
 Ground nut  
 Hairy rhynchosia  
 Hog peanut  
 Indigo bush  
 Bicolor lespedeza  
 Common lespedeza  
 Hairy lespedeza  
 Japonica lespedeza  
 Prostrate lespedeza  
 Roundhead lespedeza  
 Thunburg lespedeza  
 Wand lespedeza  
 Milk pea  
 Narrowleaf vetch  
 Partridge pea  
 Pencil flower  
 Redbud  
 Samson snakeroot  
 Sensitive bria  
 Sesbania  
 Small partridge pea  
 Spike- tephrosia  
 Training wild bean  
 Wild Indigo  
 Wild pea

*Desmodium nudiflorum*  
*Desmodium rotundifolium*  
*Desmodium tortuosum*  
*Robinia pseudo-acacia*  
*Rubus argutus*  
*Centrosema virginianum*  
*Clitoris mariana*  
*Rubus trivialis*  
*Rhynchosia reniformis*  
*Galactia volubilis*  
*Tephrosia virginiana*  
*Apois americana*  
*Rhynchosia tomentosa*  
*Amphicarpa bracteata*  
*Amorpha fruticosa*  
*Lepedeza biocolor*  
*Lepedeza striata*  
*Lespedeza hirta*  
*Lespedeza japonica*  
*Lespedeza procumbens*  
*Lespedeza capitata*  
*Lespedeza thunburgii*  
*Lespedeza intermedia*  
*Strophostyles helvola*  
*Vicia dasycarpa*  
*Cassia fasciculata*  
*Stylosanthes biflora*  
*Cercis canadensis*  
*Psoralea psoraliodes*  
*Schrankia microphylla*  
*Sesbania macrocarpa*  
*Casia nictitans*  
*Tephrosia speciosa*  
*Strophostyles umbellata*  
*Indigofera caroliniana*  
*Vigna suteola*

The following plant species commonly colonize a site after treatment with **DuPont™** IMAZAPYR II 75XP **HERBICIDE**.  
~~Of these species~~ Seed species may be present in the soil or may be dispersed within the area by wind and animals.

Beautyberry  
 Beggar ticks  
 Blue curls  
 Broomsedges  
 Carpet-weed  
 Common ragweed  
 Dove weed  
 Evening primrose  
 Fireweed  
 Florida purslane  
 Giant ragweed  
 Greenbrier  
 Ground cherry  
 Lambsquarter  
 Lovevine  
 Maypop  
 Morningglory  
 Muscadine grape  
 New Jersey tea  
 Panic grasses  
 Pennsylvania smartweed  
 Pigweed  
 Poison ivy  
 Pokeweed  
 Poor-joe  
 Sheep-sorrel  
 Smooth sumac  
 Trumpet vine  
 Violets  
 Virginia creep  
 Wild geranium  
 Winged sumac  
 Woolly croton  
 Yellow wood sorrel

*Callitriche americana*  
*Bidens* spp.  
*Trichostema dichotomum*  
*Andropogon* spp.  
*Mollugo verticillata*  
*Ambrosia artemisiifolia*  
*Croton glandulosus*  
*Oenothera biennis*  
*Epilobium angustifolium*  
*Richardia scabra*  
*Ambrosia trifida*  
*Smilax bona-nox*  
*Physalis virginiana*  
*Chenopodium album*  
*Cuscuta gronovii*  
*Passiflora incarnata*  
*Ipomoea purpurea*  
*Vitis rotundifolia*  
*Ceanothus americanus*  
*Panicum* spp.  
*Polygonum pennsylvanicum*  
*Amaranthus hybridus*  
*Rhus radicans*  
*Phytolacca americana*  
*Diadia teres*  
*Rumex hastatulus*  
*Rhus glabra*  
*Campsis radicans*  
*Violet* spp.  
*Parthenocissus quinquefolia*  
*Geranium carolinianum*  
*Rhus copallina*  
*Croton capitatus*  
*Oxalis stricta*

## PASTURE AND RANGELAND

### SPOT APPLICATIONS

IMAZAPYR II 75XP **HERBICIDE** may be used as a spot treatment for weed control in rangelands and grass pastures. Apply with ground equipment at the rate of 0.7 to 16 ounces per acre. Do not treat more than one tenth of the area to be cut for hay or grazed. Do not apply more than 16 ounces per acre per year.

Do not cut forage grass until 7 days after an IMAZAPYR II 75XP **HERBICIDE** application. There are no restrictions for grazing.

For rangeland areas, IMAZAPYR II 75XP **HERBICIDE** should only be applied to control specific problem weeds. The successful weed management program depends on land management practices that promote the growth and development of desirable plant species.

IMAZAPYR II 75XP **HERBICIDE** controls non-native, invasive, and noxious weeds in rangeland to aid in maintaining or establishing desirable plant species during normal conditions and following a fire. It is also used to control vegetation that could fuel wildfires or to help wildlife habitat improvement by suppressing/controlling undesirable vegetation or to release existing desirable rangeland plant communities from competing undesirable plants.

Caution must be used to protect threatened and endangered plants when applying IMAZAPYR II 75XP **HERBICIDE** in rangeland. To identify endangered plants in your area, work with the Fish and Wildlife Service or state conservation agencies to ensure protection of threatened or endangered plants. Federal agencies follow NEPA regulations, but other organizations or people must operate under a Habitat Conservation Plan to ensure the protection of threatened and endangered plants.

### ROTATIONAL CROP GUIDELINES

When used at the specified rangeland and pasture rates, rotational crops may be planted 12 months after applications of IMAZAPYR II 75XP **HERBICIDE**. Prior to planting any crop a successful field bioassay must be completed -- field bioassay to be completed after the 12 month interval.

The field bioassay consists of a test strip of the intended rotational crop planted in the previously treated area in the grass pasture/rangeland sites and grown to maturity. The test strip should include low areas and knolls, and include variations in soil type and pH within the treated area. If no crop injury is evident in the test strip, the intended rotational crop may be planted the following year. **DuPont™** IMAZAPYR II 75XP **HERBICIDE** used according to label directions can allow for normal growth of rotational crops but environmental and agronomic factors may vary resulting in injury to rotational crops at times.

## NON-AGRICULTURAL USES

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Terrestrial non-crop weed control is not within the scope of the Worker Protection Standard. See the Product Information section of this label for a description of non-crop sites.

Do not enter or allow worker entry into treated areas until sprays have dried.

## PRODUCT INFORMATION

IMAZAPYR II 75XP **HERBICIDE** is to be mixed with water and a surfactant, unless otherwise directed, and applied as a spray for the control of undesirable vegetation in terrestrial non-agricultural sites and unimproved turf.

IMAZAPYR II 75XP **HERBICIDE** is to be applied as a spray solution for general weed and brush control on private, public, and military lands as follows: uncultivated non-agricultural areas (including airports, highway, railroad and utility rights-of-way, sewage disposal areas); uncultivated agricultural areas - non-crop producing (including farmyards, fuel storage areas, fence rows, non-irrigation ditch banks, barrier strips); industrial sites - outdoor (including lumberyards, pipeline and tank farms) including grazed or hayed areas on these sites. This product may be applied to terrestrial non-crops sites and unimproved turf sites that contain areas of temporary surface water caused by collection of water, in equipment ruts, or in other depressions created by management activities. It is permissible to treat intermittently flooded low lying sites, seasonally dry flood plains, and transitional areas between upland and lowland sites when no water is present. It is also permissible to treat marshes, swamps, and bogs after water has receded, as well as seasonally dry flood deltas. Do not apply IMAZAPYR II 75XP **HERBICIDE** to dry irrigation canals/ditches.

IMAZAPYR II 75XP **HERBICIDE** provides preemergence and postemergence control of the broadleaf weeds, perennial and annual grasses, vines, and brush species found on the label. For perennial species on the label, a postemergence application should be used. For best performance, an adjuvant should be included to the spray solution (see **Adjuvants** section for specific recommendations).



Good spray coverage of the target plant is desired. Excessive wetting which causes the spray to run off target plants should be avoided. IMAZAPYR II 75XP **HERBICIDE** may be applied by either ground or aerial spray equipment.

Note: Injury or loss of desirable trees or other plants may result if IMAZAPYR II 75XP **HERBICIDE** is applied on or near desirable trees or other plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their root.

## APPLICATION INFORMATION

### BRUSH

#### Aerial Applications

IMAZAPYR II 75XP **HERBICIDE** may be applied by either fixed wing aircraft or helicopter spray equipment. Fixed wing aircraft and helicopters can be used to apply IMAZAPYR II 75XP **HERBICIDE**, however, do not make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil(TM) boom, Thru-Valve(TM) boom, or raindrop nozzles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the recommended rate.

For brush sites, uniformly apply the specified amount of IMAZAPYR II 75XP **HERBICIDE** in a minimum of 5 gallons of water per acre. Use adequate spray volume to provide an accurate and uniform spray droplet distribution over the treated area and to avoid spray drift. Include a nonionic surfactant or methylated seed oil or a silicone based surfactant in the spray solution (see **Adjuvant** section).

A foam reducing agent may be added at the label rate, if needed. Side trimming is not recommended with IMAZAPYR II 75XP **HERBICIDE** unless death of the treated tree can be tolerated. All precautions should be taken to minimize or eliminate spray drift.

Important: Thoroughly clean application equipment, including landing gear, immediately after use of this product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may prevent corrosion.

#### GROUND APPLICATIONS

##### Low Volume Applications

Apply **DuPont™** IMAZAPYR II 75XP **HERBICIDE** in a minimum of 5 gallons of spray solution per acre. Prepare the spray solution by thoroughly mixing in water a sufficient quantity of IMAZAPYR II 75XP **HERBICIDE** to apply 4 to 8 ounces per acre of IMAZAPYR II 75XP **HERBICIDE** plus a recommended adjuvant (see the Adjuvant section).

Do not apply more than 32 ounces per acre of IMAZAPYR II 75XP **HERBICIDE**. Good plant coverage is necessary for best results. The spray solution should cover the crown and at least 75% of the plant. Use adequate spray volume to help provide uniform distribution of spray droplets over the treated area and to avoid spray drift. Use the higher rates for hard to control brush species.

**Important:** Use 5.3 to 16 ounces IMAZAPYR II 75XP **HERBICIDE** per acre in combination with other recommended tank mixes when treating rights-of-way corridors that may have roots of desired trees extending into the treated area. Do not use more than 16 ounces per acre of IMAZAPYR II 75XP **HERBICIDE** in these areas as death to desired trees may occur. Add a spray pattern indicator, if desired, at the label rates. Clean application equipment after using this product by thoroughly flushing with water.

**Side Trimming:** Side trimming with IMAZAPYR II 75XP **HERBICIDE** can cause severe injury or death to the treated tree. Do not make side trimming applications unless death of the tree is acceptable.

#### SUGGESTED TANK-MIXES AND APPLICATION RATES\*

Target Vegetation	<b>DuPont™</b> IMAZAPYR II 75XP HERBICIDE	
	(ounces per acre) †	
Mixed hardwoods without elm, locust, or pine	5.3 - 8	Surfactant
Mixed hardwoods without elm, locust, or pine	4 - 5.3	**Glyphosate at 2 to 3% by volume plus surfactant
Mixed hardwoods without elm, locust, or pine	4 - 5.3	DuPont™ KRENITE® S at 2 to 5% by volume plus surfactant
Mixed hardwoods without elm, locust, or pine	4 - 5.3	<b>DuPont™</b> ESCORT® XP at 2 ounces per acre or 2.23 grams/gallon plus surfactant

\*Tank mixtures with 2,4-D or products containing 2,4-D have resulted in reduced efficacy with IMAZAPYR II 75XP **HERBICIDE**.

\*\* 4 pounds glyphosate acid per gallon.

†Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

## Backpack Sprayers

For backpack manual sprayer applications, spray down on the crown and ensure coverage of 70% of the brush plant for plants up to 4 feet tall. When the plants are up to 8 feet tall, treat at least two sides of the plant. Make swipes vertically from the crown to the base of the plant, covering the crown.

If brush plants are over 8 feet tall, lace at least two sides of the plants with back and forth movements starting at crown and moving downward to base.

## Hydraulic Handgun Equipment

When making broadcast applications, apply near the tops of the brush plants in a light drizzle pattern. The spray solution should reach the crown of the plants and trickle down into the canopy but not reach the under-story plant growth as severe injury or death of the under-story plants could occur.

## High Volume Applications

When treating medium to high infestations of brush, apply IMAZAPYR II 75XP **HERBICIDE** at up to 100 gallons of spray solution per acre (GPA). Mix IMAZAPYR II 75XP **HERBICIDE** at 11.2 to 32 ounces per acre plus a surfactant. Add a foam reducing agent if needed. Use the higher rate for hard to control brush species but do not apply more than 32 ounces per acre. Apply evenly to cover brush foliage but don't over apply causing run-off.

Note: Spray applications exceeding 100 GPA may cause injury to the under-story or ground cover due to spray run-off.

## Invert Emulsions Applications

IMAZAPYR II 75XP **HERBICIDE** can be applied as an invert emulsion (water in oil). This can be done in a batch mixing (single tank) or inline-mixing (injected) process. Follow the directions on the invert chemical guide.

## Cut Stubble Applications

To control or suppress re-sprouting, an application of **DuPont™** IMAZAPYR II 75XP **HERBICIDE** should be applied within 2 weeks after mechanical cutting or mowing of brush. Apply IMAZAPYR II 75XP to the cut surface of the brush at a rate of 5.3 to 10.6 ounces per acre. To aid stem or exposed root absorption of the IMAZAPYR II 75XP **HERBICIDE** include a penetrating agent at the rate of 5% v/v.

Picloram may be tank mixed with IMAZAPYR II 75XP **HERBICIDE** to aid the control of brush and blackberry species. Make applications to the cut brush, the stumps and to the soil. Applications to the soil may allow nearby desirable tree roots to contact the treated area causing injury or death to desirable trees.

Waiting to treat re-sprouted brush foliage can be more efficacious to the brush and less injurious to desirable trees as less spray solution contacts the soil.

## DILUTE SOLUTION APPLICATIONS

### Cut Stump treatments

For dilute solutions, add 2.7 to 4 ounces of IMAZAPYR II 75XP **HERBICIDE** to one gallon of water. If temperatures are cold enough that the spray solution might freeze, add ethylene glycol (antifreeze) per manufacturers product recommendations.

To control recently cut target brush, apply IMAZAPYR II 75XP **HERBICIDE** solution to the newly cut stump or stem surfaces (cambium area). Brush or spray the dilute solution onto the newly cut stem or stump surface - apply to the cambium area (the wood surface next to the bark of the stump). Make sure the entire cambium area is thoroughly covered with the solution. Do not make applications during the early spring period when sap flow is heaviest. Excess application may cause puddling or run off. Desirable trees whose roots may share the same root system or may have become grafted to the treated tree/brush may be severely injured.

Note: IMAZAPYR II 75XP **HERBICIDE** may be applied as either a dilute or concentrated solution for this type of application. For cut stem or stump surfaces, a dilute solution may be used. For applications to cuts made to the stems, apply IMAZAPYR II 75XP **HERBICIDE** as a concentrated solution. For larger diameter trees, using the concentrated solution allows fewer cuts to the stems. When cut areas have become partially callused, adding an adjuvant or penetrating agent may aid absorption into the stem or stump.

**Tree Injection treatments:** Apply 1 milliliter of dilute solution through commercial injection equipment into each injection site around the tree. Allow no more than one inch intervals between cut edges. Make sure that the injector penetrates the tree bark at each site.

**Frill or Girdle treatments:** With no more than two inch intervals between cut edges, use a machete, hatchet, or similar equipment to make cuts through the bark around the tree. Brush or spray the dilute solution directly into each cut thoroughly wet each cut with the solution.



## CONCENTRATED SOLUTION APPLICATIONS

For concentrated solutions, add 1.3 pounds of IMAZAPYR II 75XP **HERBICIDE** to a maximum of 1 quart of water.

**Tree Injection treatments:** With commercial injection equipment, apply 1 milliliter of concentrated IMAZAPYR II 75XP **HERBICIDE** solution into each injection site around the tree. For each 3 inches of Diameter at Breast Height (DBH) of the target tree, make at least one injection cut. Using this method, a 6 inch DBH tree would get at least two injection cuts. For larger trees that require more than one injection site, make the injection cuts at equal distances around the tree.

**Frill or Girdle treatments:** With a machete, hatchet, or similar equipment, make cuts through the bark at equal distances around the tree. For each 3 inches of Diameter at Breast Height (DBH) of the target tree, make at least one injection cut. Using this method, a 6 inch DBH tree would get at least two injection cuts. For larger trees that require more than one injection site, make the injection cuts at equal distances around the tree.

**Note:** Injury may occur to desirable woody plants if the shoots extend from the same root system or their root systems are grafted to those of the treated tree.

## UNDER PAVED SURFACES APPLICATIONS

In industrial sites or where the pavement perimeter has a suitable barrier that prevents roots of desirable plants from encroaching into the treated area, IMAZAPYR II 75XP **HERBICIDE** may be used to control weeds under pond liners, asphalt and other paved areas. The area to be treated must have been prepared in accordance with good construction practices or do not apply IMAZAPYR II 75XP **HERBICIDE**. All vegetative plant parts including roots, tubers, stolons or rhizomes should be completely removed prior to application. A grader blade may be used to "scalp" the site to aid the removal of these plant parts.

IMAZAPYR II 75XP **HERBICIDE** is not to be used under pavement in residential or recreational areas. Do not use IMAZAPYR II 75XP **HERBICIDE** under paved areas such as driveways, parking lots, bike or jogging paths, golf cart paths, tennis courts or when landscape planting could be anticipated. Where roots of desirable plants are present or may extend into the treated area, injury or death of these plants may result. Shrub or tree roots may extend well beyond the branch/limb extremities or drip line. **DuPont™** IMAZAPYR II 75XP **HERBICIDE** should only be applied following the final grading of the site to be paved. After the IMAZAPYR II 75XP **HERBICIDE** application, the soil should not be disturbed or moved. On a per acre basis, add 2 pounds of IMAZAPYR II 75XP **HERBICIDE** to a minimum of 100 gallons of water (0.73 ounces per 1000 square feet) to help ensure a uniform and thorough coverage of the site surface and shoulder areas.

For proper activation of IMAZAPYR II 75XP **HERBICIDE**, it should be incorporated by rainfall (minimum of 1 inch) or mechanical equipment. If no rainfall or irrigation occurs, use a roto-tiller or disc and incorporate IMAZAPYR II 75XP **HERBICIDE** 4 to 6 inches deep into the soil.

Do not allow soil from the treated site to move or wash into untreated areas.

**Important:** Paving should follow IMAZAPYR II 75XP **HERBICIDE** applications as soon as possible.

## UNIMPROVED BERMUDAGRASS AND BAHIAGRASS TURF APPLICATIONS

IMAZAPYR II 75XP **HERBICIDE** may be used in non-crop industrial sites, such as, utility rights-of-way and roadsides, for general weed control where either bahiagrass or common bermudagrass or coastal bermudagrass is the established turf. Applications to bermudagrass will cause stunting and seed head inhibition.

Apply IMAZAPYR II 75XP **HERBICIDE** by ground equipment only. Use a minimum of 10 gallons of water per acre and a spray pressure of 20 to 50 pounds per square inch (psi).

**Important:** A temporary chlorosis (yellowing) may occur if applications are made after growth begins.

Do not include surfactants at a rate greater than 1 ounce per 25 gallons of spray solution.

Do not apply in the first growing season of either bahiagrass or bermudagrass.

Do not apply IMAZAPYR II 75XP **HERBICIDE** to grass under stress from disease, insects, drought, or other causes.

## RATES AND TIMINGS

**BERMUDAGRASS-** In dormant bermudagrass, IMAZAPYR II 75XP **HERBICIDE** may be applied at 2 to 4 ounces per acre. When bermudagrass has attained the full green-up stage of growth, IMAZAPYR II 75XP **HERBICIDE** may be applied at 2 to 2.7 ounces per acre. Treatments made prior to the full green-up stage will delay green-up.

For broader spectrum preemergence control of grasses and broadleaf weeds, LINEAGE™ may be tank mixed with pendimethalin. See the pendimethalin label for use rates and any other application information.

For Johnsongrass control in bermudagrass, apply a tank mixture of IMAZAPYR II 75XP **HERBICIDE** at 8 ounces per acre plus glyphosate at 12 ounces per acre (4 pound active per gallon) plus a surfactant. For additional control of broadleaf weeds and vines, triclopyr (3 pounds active per gallon) may be added to the above mixture at the rate of 1 to 2 pints per acre. Observe all precautions and restrictions on the tank mixture partner label(s).

**BAHIAGRASS-** For bahiagrass in the dormant to early greenup stage of growth, IMAZAPYR II 75XP **HERBICIDE** may be

applied at the rate of 1.3 to 2.7 ounces per acre.

Caution: Do not apply IMAZAPYR II 75XP **HERBICIDE** to bahiagrass beyond the 25% green-up stage of growth. Include a surfactant in the spray solution.

## WEEDS CONTROLLED

Bedstraw	( <i>Galium spp</i> )
Bishopweed	( <i>Ptilimnium capillaceum</i> )
Buttercup	( <i>Ranunculus parviflorus</i> )
Carolina geranium	( <i>Geranium carolinianum</i> )
Fescue	( <i>Festuca spp</i> )
Foxtail	( <i>Setaria spp</i> )
Johnsongrass, seedling	( <i>Sorghum halepense</i> )
Little barley	( <i>Hordeum pusillum</i> )
Wild carrot	( <i>Daucus carota</i> )
White clover	( <i>Trifolium repens</i> )
Yellow woodsorrel	( <i>Oxalis stricta</i> )

## GRASS GROWTH AND SEED-HEAD SUPPRESSION

For areas of unimproved turf grass, IMAZAPYR II 75XP **HERBICIDE** may be used for the suppression of grass growth and seed-head development. Depending on the environmental conditions at time of treatment, applications to desirable turf grass may cause discoloration or injury. For best results, all applications should be made before stem (culm) elongation. IMAZAPYR II 75XP **HERBICIDE** applications may be made prior to or after mowing. For applications before mowing, the grass should have had at least 3 days of active growth. Applications made after mowing should also allow time for the grass to recover. IMAZAPYR II 75XP **HERBICIDE** applications made too soon before or after mowing could result in increased grass injury.

Check turf grass conditions first before making IMAZAPYR II 75XP **HERBICIDE** applications. Do not apply to grass under stress from cold, insects, diseases, drought, damage, etc. or severe injury or death may occur.

**Bermudagrass:** Apply **DuPont™** IMAZAPYR II 75XP **HERBICIDE** at 2 to 2.7 ounces per acre from early green-up to prior to seed head initiation. Do not add a surfactant for this application.

**Cool Season Unimproved Turf:** Apply at a rate of 0.7 ounces per acre plus 0.25% v/v non-ionic surfactant. For increased suppression, tank mix with glyphosate (1.2 pounds active per gallon) at 24 ounces per acre or mefluidide (2 pound active per gallon) at 8 ounces per acre.

**Note:** Tank mixtures may increase injury to desired turf. Consult each product label for recommended turf species and other use directions and precautions. Tank mixes with 2,4 -D or products containing 2,4-D may decrease the effectiveness of IMAZAPYR II 75XP **HERBICIDE**.

## TOTAL VEGETATION CONTROL

### BAREGROUND

IMAZAPYR II 75XP **HERBICIDE** may be used in sites for bareground (total vegetation control) weed control. Preemergence or postemergence applications of IMAZAPYR II 75XP **HERBICIDE** provides control of many annual and perennial broadleaf and grass weeds.

It may be used alone at 8 to 32 ounces per acre or in tank mixes with other products registered for use on bareground sites. Consult the manufacturer's labels for specific rates, weeds controlled, and use restrictions. Make applications using a spray volume of up to 100 gallons per acre and include an adjuvant.

Apply at any time of the year. Make a thorough and uniform application with calibrated spray equipment per label instructions. Use the higher rates of **IMAZAPYR** II 75XP **HERBICIDE** for fall applications and in previously untreated areas or areas with high weed infestations.

For postemergence applications always include a spray adjuvant. For faster brown-out or burn down results, add glyphosate or similar products to the tank.

As above for postemergence applications, the addition of glyphosate or similar products may be added for faster brown-out or burndown of the escaped weeds. For added residual weed control or to broaden the weed control spectrum, tank mix with other residual products registered for use on bareground sites. The level and length of control will depend on the herbicide(s) rate applied, amount of rainfall, the soil texture, and other environmental and applications conditions.

## WEEDS CONTROLLED

IMAZAPYR II 75XP **HERBICIDE** provides postemergence control and some residual control of the annual weeds in the following tables. The degree of control is both rate and species dependent. Postemergence applications generally provide best control of established biennials and perennial weeds. All rates in the Weeds Controlled table are expressed in the amount of herbicide required for broadcast applications. Review the weed lists and foot notes for additional application information prior to treating.

### GRASSES

**Apply 11.2 to 16 ounces per acre<sup>1</sup>**

#### COMMON NAME

Bluegrass, annual  
Broadleaf signalgrass  
Canada bluegrass  
Downy brome  
Fescue  
Foxtail  
Italian ryegrass  
Johnsongrass'  
Kentucky bluegrass  
Lovegrass'  
Orchardgrass  
Paragrass  
Quackgrass  
Sandbur  
Sand dropseed  
Smooth brome  
Vaseygrass  
Wild oats  
Witchgrass

#### GENUS SPECIES

*Poa annua*  
*Brachiaria platyphylla*  
*Poa compressa*  
*Bromus tectorum*  
*Festuca spp.*  
*Setaria spp.*  
*Lolium multiflorum*  
*Sorghum halepense*  
*Poa pratensis*  
*Eragrostis spp.*  
*Dactylis glomerata*  
*Brachiaria mutica*  
*Agropyron repens*  
*Cenchrus spp.*  
*Sporobulus cryptandrus*  
*Bromus inermis*  
*Paspalum urvillei*  
*Avenafatua*  
*Panicum capillare*

**Apply 16 to 21 ounces per acre<sup>1</sup>**

Barnyardgrass  
Beardgrass  
Cheat  
Crabgrass  
Crowfootgrass  
Pall panicum  
Giant reed  
Goosegrass  
Itchgrass  
Junglerice  
Lovegrass  
Maidencane  
Panicum, browntop  
Panicum, Texas  
Prairie threeawn  
Reed canarygrass  
Sandbur, field  
Signalgass  
Torpedograss  
Wild barley  
Wooly cupgrass

*Echinochloa crus-gali*  
*Andropogon spp.*  
*Bromus secalinus.*  
*Digitaria spp.*  
*Dactyloctenium aegyptium*  
*Panicum dichotomiflorum*  
*Arundo donax*  
*Eleusine indica*  
*Rotthoellia exaltata*  
*Echinochloa colonum*  
*Eragrostis spp.*  
*Panicum hemitomon*  
*Panicum fasciculatum*  
*Panicum texanum*  
*Aristida oligantha*  
*Phalaris arundinacea*  
*Cenchrus incertus*  
*Brachiaria platyphylla*  
*Panicum repens*  
*Hordeum spp.*  
*Eriochloa villosa*

## Apply 21 to 32 ounces per acre<sup>1</sup>

Bahiagrass  
Bermudagrass'  
Big bluestem  
Cattail  
Cogongrass  
Dallisgrass  
Feathertop  
Guineagrass  
Phragmites  
Prairie cordgrass  
Saltgrass<sup>2</sup>  
Sand dropseed  
Sprangletop  
Timothy  
Wirestem muhly

*Paspalum notatum*  
*Cynodon dactylon*  
*Andropogon gerardii*  
*Typha* spp.  
*Imperata cylindrica*  
*Paspalum dilatatum*  
*Pennisetum villosum*  
*Panicum maximum*  
*Phragmites australis*  
*Spartina pectinata*  
*Distichlis stricta*  
*Sporobolus cryptandrus*  
*Leptochloa* spp.  
*Phleum pratense*  
*Muhlenbergia frondosa*

## BROADLEAF WEEDS

### Apply 11.2 to 16 ounces per acre<sup>1</sup>

Alligatorweed  
Burdock  
Camphorweed  
Carpetweed  
Carolina geranium  
Clover  
Common chickweed  
Common ragweed  
Dandelion  
Dogfennel  
Filaree  
Fleabane  
Hoary vervain  
Horseweed  
Indian mustard  
Kochia  
Lambsquarters  
Lespedeza  
Miners lettuce  
Mullein  
Nettleleaf goosefoot  
Oxeye daisy  
Pepperweed  
Pigweed  
Plantain  
Puncturevine  
Russian thistle  
Smartweed  
Sorrel  
Sunflower  
Sweet clover  
Tansymustard  
Western ragweed  
Wild carrot  
Wild lettuce  
Wild parsnip  
Wild turnip  
Woollyleaf bursage  
Yellow woodsorrel

*Alternanthera philoxeroides*  
*Arctium* spp.  
*Heterotheca subaxillaris*  
*Mollugo verticillata*  
*Geranium carolinianum*  
*Trifolium* spp.  
*Stellaria media*  
*Ambrosia artemisiifolia*  
*Taraxacum officinale*  
*Eupatorium capillifolium*  
*Erodium* spp.  
*Erigeron* spp.  
*Verbena stricta*  
*Conyza canadensis*  
*Brassica juncea*  
*Kochia scoparia*  
*Chenopodium album*  
*Lezpedeza* spp.  
*Montia perfoliata*  
*Verbascum* spp.  
*Chenopodium murale*  
*Chrysanthemum leucanthemum*  
*Lepidium* spp.  
*Amaranthus* spp.  
*Plantago* spp.  
*Tribulus terrestris*  
*Salsola kali*  
*Polygonum* spp.  
*Rumex* spp.  
*Helianthus* spp.  
*Melilotus* spp.  
*Descurainia pinnata*  
*Ambrosia psilostachya*  
*Daucus carota*  
*Lactuca* spp.  
*Pastinaca sativa*  
*Brassica campestris*  
*Franseria tomentosa*  
*Oxalis stricta*

### Apply 16 to 21 ounces per acre<sup>1</sup>

Broom snakeweed  
Bull thistle  
Burclover  
Chickweed, mouseear  
Clover, hop  
Cocklebur  
Cudweed  
Desert camelthorn  
Diffuse knapweed  
Dock  
Fiddleneck  
Goldenrod  
Henbit  
Knotweed, prostrate  
Pokeweed  
Purple loosestrife  
Purslane  
Pusley, Florida  
Rocket, London  
Rush skeletonweed  
Saltbush  
Shepherd's-purse  
Spurge, annual  
Stinging nettle  
Velvetleaf  
Yellow starthistle

*Gutierrezia sarothrae*  
*Cirsium vulgare*  
*Medicago* spp.  
*Cerastium vulgatum*  
*Trifolium procumbens*  
*Xanthium strumarium*  
*Gnaphalium* spp.  
*Alhagi pseudalhagi*  
*Centaurea diffusa*  
*Rumex* spp.  
*Amsinckia intermedia*  
*Solidago* spp.  
*Lamium aplexicaule*  
*Polygonum aviculare*  
*Phytolacca americana*  
*Lythum salicaria*  
*Portulaca* spp.  
*Richardia scabra*  
*Sisymbrium irio*  
*Chondrilla juncea*  
*Atriplex* spp.  
*Capsela bursa-pastoris*  
*Euphorbia* spp.  
*Urtica dioica*  
*Abutilon theophrasti*  
*Centaurea solstitialis*

### Apply 21 to 32 ounces per acre<sup>1</sup>

Arrowwood  
Canada thistle  
Giant ragweed  
Grey rabbitbrush  
Japanese bamboo/knotweed  
Little mallow  
Milkweed  
Primrose  
Russian knapweed  
Silverleaf nightshade  
Sowthistle  
Texas thistle

*Pluchea sericea*  
*Cirsium arvense*  
*Ambrosia trifida*  
*Chrysothamnus nauseosus*  
*Polygonum cuspidatum*  
*Malva parvilora*  
*Asclepias* spp.  
*Oenothera kunthiana*  
*Centaurea repens*  
*Solanum elaeagnifolium*  
*Sonchus* spp.  
*Cirsium texanum*

### VINES AND BRAMBLES

#### Apply 5 ounces per acre<sup>1</sup>

Field bindweed  
Hedge bindweed

*Convolvulus arvensis*  
*Calystegia sepium*

#### Apply 11.2 to 16 ounces per acre<sup>1</sup>

Wild buckwheat

*Polygonum convolvulus*

### Apply 16 to 21 ounces per acre<sup>1</sup>

Greenbriar  
Honeysuckle  
Morningglory  
Poison ivy  
Redvine  
Wild rose<sup>1</sup>  
Including: Multiflora rose  
Macartney rose  
Rosa multiflora  
Rosa bracteata

*Smilax* spp.  
*Lonicera* spp.  
*Ipomoea* spp.  
*Rhus radicans*  
*Brunnichia cirrhosa*  
  
*Rosa* spp.

## Apply 21 to 32 ounces per acre<sup>1</sup>

Kudzu<sup>4</sup>  
Trumpet creeper  
Virginia creeper  
Wild grape

*Pueraria lobata*  
*Campsis radicans*  
*Parthenocissus quinquefolia*  
*Vitis* spp.

## BRUSH SPECIES

### Apply 21 to 32 ounces per acre<sup>1</sup>

Alder  
American beech  
Ash<sup>1</sup>  
Aspen  
Autumn olive  
Bald cypress  
Bigleaf maple  
Birch<sup>1</sup>  
Blackgum<sup>2</sup>  
Boxelder  
Black oak  
Ceanothus  
Cherry<sup>1,2</sup>  
Chinaberry  
Chinese tallow-tree  
Chinquapin  
Cottonwood  
Cypress  
Dogwood<sup>1</sup>  
Eucalyptus  
Hawthorn  
Hickory<sup>1</sup>  
Huckleberry  
Lyonia spp.  
    Including: Fetterbush  
                Staggerbush  
Madrone  
Maple  
Melaleuca  
Mulberry<sup>1,3</sup>  
Oak<sup>1</sup>  
Persimmon<sup>2</sup>  
Poison oak  
Popcorn tree  
Poplar  
Privet  
Red Alder  
Red Maple  
Russian Olive  
Saltcedar  
Sourwood<sup>2</sup>  
Sumac  
Sweetgum  
Sycamore  
Tanoak<sup>1</sup>  
Titi<sup>1</sup>  
Tree of heaven  
Vaccinium spp.  
    Including: Blueberry  
                Sparkleberry  
Willow  
Yellow poplar

*Alnus* spp.  
*Fagus grandifolia*  
*Fraxinus* spp.  
*Populus* spp.  
*Elaeagnus umbellata*  
*Taxodium distichum*  
*Acer macrophyllum*  
*Betula* spp.  
*Nyssa sylvatica*  
*Acer negundo*  
*Quercus kelloggii*  
*Ceanothus* spp.  
*Prunus* spp.  
*Melia azadarach*  
*Sapium sebiferum*  
*Castanopsis chrysophylla*  
*Populus trichocarpa* and *P. deltoides*  
*Taxodium* spp.  
*Comus* spp.  
*Eucalyptus* spp.  
*Crataegus* spp.  
*Carya* spp.  
*Gaylussacia* spp.  
  
*Lyonia lucida*  
*Lyonia mariana*  
*Arbutus menziesii*  
*Acer* spp.  
*Melaleuca quinquenervia*  
*Morus* spp.  
*Quercus* spp.  
*Diospyros virginiana*  
*Rhus diversiloba*  
*Sapium sebiferum*  
*Populus* spp.  
*Ligustrum vulgare*  
*Alnus rubra*  
*Acer rubrum*  
*Elaeagnus angustifolia*  
*Tamarix ramosissima*  
*Sassafras albidum*  
*Rhus* spp.  
*Liquidambar styraciflua*  
*Platanus occidentalis*  
*Lithocarpus densiflorus*  
*Cyrilla racemiflora*  
*Ailanthus altissima*  
  
*Vaccinium* spp.  
*Vaccinium arboreum*  
*Salix* spp.  
*Liriodendron tulipifera*

1 The higher rates should be used where heavy or well established infestations occur and for best control of Water, Laurel, Willow, and Live oaks species.

2 Best control prior to formation of fall leaf color.

3 Degree of control may be species dependent.

4 Use a minimum of 75 GPA- control of established stands may require repeat applications.

# **ADDITIONAL INSTRUCTIONS, PRECAUTIONS, AND RESTRICTIONS FOR AGRICULTURAL AND NON-AGRICULTURAL USES**

## **SPRAY DRIFT MANAGEMENT**

The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

### **IMPORTANCE OF DROPLET SIZE**

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMDs and lower drift potential.

### **CONTROLLING DROPLET SIZE-GROUND APPLICATION**

- Nozzle Type - Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- Pressure - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size- Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

### **CONTROLLING DROPLET SIZE- AIRCRAFT**

- Nozzle Type- Solid stream, or other low drift nozzles, produce the coarsest droplet spectra.
- Number of Nozzles- Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.
- Nozzle Orientation - Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- Pressure - Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential

### **BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT**

- Boom Length (aircraft) - Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- Application Height (aircraft) - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- Application Height (ground) - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

### **WIND**

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how



they affect spray drift.

## **TEMPERATURE TEMPERATURE AND HUMIDITY**

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

### **SURFACE TEMPERATURE INVERSIONS**

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior.

Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

### **AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS**

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

**Note:** Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

### **SENSITIVE AREAS**

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

### **DRIFT CONTROL ADDITIVES**

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Chemical Producers and Distributors Association (CPDA).

### **SPRAY DRIFT RESTRICTIONS**

#### **Aerial Applications:**

- Applicators are required to use a coarse or coarser droplet size (ASABE S572.1) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet; Applicators are required to use a very coarse or coarser droplet size or, if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet; Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
- Applicators are required to use upwind swath displacement.
- The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.
- Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

#### **Ground Boom Applications:**

- Applicators are required to use a nozzle height below 4 feet above the ground or plant canopy and coarse or coarser droplet size (ASABE S572.1), or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.
- Applications with wind speeds greater than 10 mph are prohibited.

- Applications into temperature inversions are prohibited.

## **WIND EROSION**

Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface must first be settled by rainfall or irrigation.

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Do not store below 10°F. Store product in original container only. Store in a cool, dry place.

**Pesticide Disposal:** Waste resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

**Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds):** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds):** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down):** Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners:** Nonrefillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack, or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

**Refillable Fiber Drums With Liners:** Refillable container (fiber drum only). Refilling Fiber Drum: Refill this fiber drum with **DuPont™ IMAZAPYR II 75XP HERBICIDE** containing imazapyr only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Disposing of Fiber Drum and/or Liner: Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

**All Other Refillable Containers:** Refillable container. Refilling Container: Refill this container with ~~DuPont™~~ IMAZAPYR II 75XP **HERBICIDE** containing imazapyr only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use the container, contact ~~DuPont~~ **BAYER CROPSCIENCE LP** at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact ~~DuPont~~ **BAYER CROPSCIENCE LP** at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration, and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour, or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Outer Foil Pouches of Water Soluble Packets (WSP):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

Do not transport if this container is damaged or leaking. If the container is damaged, leaking, or obsolete, or in the event of a major spill, fire, or other emergency, contact ~~DuPont~~ **BAYER CROPSCIENCE LP** at **1-800-334-7577** ~~1-800-441-3637~~, day or night.

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### **~~LIMITATION OF WARRANTY AND LIABILITY~~**

~~NOTICE: Read this Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.~~

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Imazapyr II Herbicide (PENDING) 10/27/2015, 10/30/2015, 11/02/2015, 11/20/2015, 11/25/2015, 11/30/2015

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